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Art Unit: 2624

CLMPTO

09/973,148

CANCEL CLAIMS 1-36; ADD CLAIMS 37-60

CLAIMS 1-36 CANCELED

37. An image processing method comprising the steps of:  
determining a variance of pixel values in a local region  
to which a pixel of interest belongs, wherein each pixel con-  
stituting an image is defined as said pixel of interest; and  
maintaining or enhancing pixel value of said pixel of int-  
erest when said determined variance is significantly larger than  
a variance of noise, otherwise suppressing or maintaining said  
pixel value of said pixel of interest.

38. The method of claim 37, wherein each pixel constitutes  
multi-slice images, and the step of maintaining or enhancing pixel  
value provides adjustment of pixel values; and further comprising  
the step of:

performing maximum intensity projection on said multi-slice  
images subjected to said pixel value adjustment.

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39. The method of claim 38, further comprising the step of:  
adding to said determined variance a variance of pixel values  
in a local region to which a corresponding pixel of interest in  
an image of a neighboring slice belongs.

40. The method of claim 37, wherein said suppressing of said  
pixel value is performed by multiplying by a coefficient of less  
than one.

41. The method of claim 37, wherein said suppressing of said  
pixel value is performed by subtracting a predefined numeric value.

42. The method of claim 37, wherein said enhancing of said  
pixel value is performed by multiplying by a coefficient which  
is equal to or greater than one.

43. The method of claim 37, wherein said enhancing of said  
pixel value is performed by adding a predetermined numeric value.

44. The method of claim 37, further comprising the steps of:  
determining a residual sum of squares of pixel values for each  
of a plurality of local regions defined over an entire image;  
determining a histogram of said residual sum of squares; and  
determining said variance of noise based on a residual sum of  
squares that gives a peak of said histogram.

45. The method of claim 37, wherein said image is of a  
blood flow image.

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46. An image processing apparatus comprising:

first means for determining a variance of pixel values in a local region to which a pixel of interest belongs, wherein each pixel constituting an image is defined as said pixel of interest; and

second means for maintaining or enhancing pixel values of said pixel of interest when said determined variance is significantly larger than a variance of noise, otherwise for suppressing or maintaining said pixel value of said pixel of interest.

47. The apparatus of claim 46, wherein each pixel constitutes multi-slice images, and wherein said second means comprises means for adjusting said pixel value; and further comprising:

third means for performing maximum intensity projection on said multi-slice images subjected to said pixel value adjustment.

48. The apparatus of claim 47, further comprising:

fourth means for adding to said determined variance a var-

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iance of pixel values in a local region to which a corresponding pixel of interest in an image of a neighboring slice belongs.

49. The apparatus of claim 46, wherein said second means comprises means for suppressing said pixel value by multiplying with a coefficient of less than one.

50. The apparatus of claim 46, wherein said second means comprises means for suppressing said pixel value by subtracting a predefined numeric value.

51. The apparatus of claim 46, wherein said second means comprises means for enhancing said pixel value by multiplying with a coefficient which is equal to or greater than one.

52. The apparatus of claim 46, wherein said second means comprises means for enhancing said pixel value by adding a predefined numeric value.

53. The apparatus of claim 46, further comprising:  
third means for determining said variance of noise, wherein said third means comprises:

means for determining a residual sum of squares of pixel values for each of a plurality of local regions defined over an entire image;

means for determining a histogram of said residual sum of squares; and

means for determining said variance of noise based on a residual sum of squares that gives a peak of said histogram.

54. The apparatus of claim 46, wherein said image is of a blood flow image.

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55. A recording medium for being recorded in a computer readable manner with a program for causing a computer to implement the functions of:

determining a variance of pixel values in a local region to which a pixel of interest belongs, wherein each pixel constituting an image is defined as said pixel of interest; and

maintaining or enhancing said pixel value of said pixel of interest when said determined variance is significantly larger than a variance of noise, otherwise for suppressing or maintaining said pixel value of said pixel of interest.

56. The recording medium of claim 55, wherein each pixel constitutes multi-slice images, and the step of maintaining or enhancing pixel value provides adjustment of pixel values; and further comprising the function of:

performing maximum intensity projection on said multi-slice images subjected to said pixel value adjustment.

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57. The recording medium of claim 56, further comprising the function of:

adding to said determined variance a variance of pixel values in a local region to which a corresponding pixel of interest in an image of a neighboring slice belongs.

58. An imaging apparatus for producing an image based on signals collected from an object, said apparatus comprising:

means for determining a variance of pixel values in a local region to which a pixel of interest belongs, said pixel of interest being defined as being each pixel constituting an image; and

means for maintaining or enhancing said pixel value of said pixel of interest when said determined variance is significantly larger than a variance of noise, otherwise for suppressing or maintaining said pixel value of said pixel of interest.

59. The imaging apparatus of claim 58, wherein each pixel constitutes multi-slice images, and wherein said means for determining a variance of pixel values comprises means for adjusting said pixel values; and further comprising:

means for performing maximum intensity projection on said multi-slice images subjected to said pixel value adjustment.

60. The imaging apparatus of claim 59, further comprising:

means for adding to said determined variance a variance of pixel values in a local region to which a corresponding pixel of interest in an image of a neighboring slice belongs.